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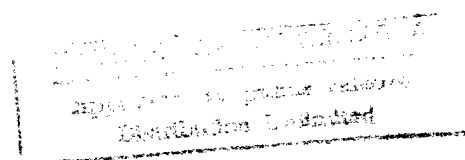
23 August 1982

# Worldwide Report

ENVIRONMENTAL QUALITY

No. 365

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23 August 1982

# WORLDWIDE REPORT ENVIRONMENTAL QUALITY

No. 365

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## AUSTRALIA

### WORLD HERITAGE, POLITICS INVOKED AS BARS TO TASMANIA DAM

#### Heritage Recommendation

Melbourne THE AGE in English 24 Jun 82 p 3

[Article by Rosslyn Beeby]

[Text] The World Heritage Bureau has recommended that south-western Tasmania be included in the World Heritage List, an international register of important natural and cultural areas.

The bureau, a United Nations organisation, has expressed concern that the area is threatened by the Tasmanian Government's proposed Gordon-below-Franklin hydro-electric project, and has urged the Prime Minister, Mr Fraser, to conserve the south-west wilderness as "an area of world significance".

The bureau met in Paris this week to consider an urgent appeal by the Australian Conservation Foundation to place south west Tasmania on an emergency list of endangered world heritage areas.

In a message to Mr Fraser, the bureau has called for a halt to the hydro-electric dam development and for National Park boundaries to be extended to include the Prince of Wales and Dennison Ranges, the Spires and the Walls of Jerusalem National Park in the protected World Heritage site.

The director of the Australian Conservation Foundation, Dr. Geoff Mosley, said yesterday the bureau's recommendation imposed a strong obligation on the Federal Government to prevent any environmental damage to the area.

Dr Mosley said the Federal Government would be in contempt of the World Heritage Convention if it did not intervene to save Tasmania's south-west wilderness. Australia would then face international condemnation and possible expulsion from an international agreement which, in 1975, it was one of the first countries to ratify.

The director of the Tasmanian Wilderness Society, Dr Bob Brown, said the World Heritage recommendation meant the campaign to save Tasmania's wild rivers was now a matter of world concern.

The area which has been nominated for the World Heritage list includes the South-west National Park, Franklin-Lower Gordon Wild Rivers National Park and Cradle Mountain-Lake St Clair National Park.

Mr Gray was unavailable for comment yesterday. He had flown to Canberra to attend the Loans Council meeting where the Tasmanian Government is expected to seek Federal finance for the \$453 million Gordon-below-Franklin development.

#### Wilderness Society Election Plans

Perth THE WEST AUSTRALIAN in English 28 Jun 82 p 14

[Text]

CANBERRA: Candidates in marginal Federal electorates whose parties do not oppose the Gordon-below-Franklin hydroelectric scheme will face strong opposition from the Tasmanian Wilderness Society at the next election.

A weekend meeting in Canberra of society representatives from all States decided to include lobbying in marginal seats as part of the stepping-up of its national campaign to prevent the Franklin being dammed.

The society's national liaison officer, Mr Chris Harris, said yesterday that wilderness-society branches would be set up in other mar-

ginal electorates to match those already established in five marginal Victorian seats.

The society would wait until nearer election time to see which party had the most acceptable policy towards the dam, work on which was expected to proceed immediately.

If two parties contesting a seat had similar no-dams policies the society might then advocate a vote against any other candidates.

Mr Harris said the key message to come from the weekend meeting was that the fight to save the Franklin was far from over.

CSO: 5000/7557

NORTH COAST RAIN FOREST DECIMATED BY GROWTH IN HOUSING

Queensland Warning

Brisbane THE COURIER-MAIL in English 21 Jun 82 p 11

[Article by Gregg Borschmann]

[Text]

**CAIRNS.— Large-scale real estate development on Queensland's far north coast threatened almost totally to wipe out thousands of hectares of one of the last remaining Australian lowlands rain forest in the next few years, a conservationist said yesterday.**

After a trip to the Cape Tribulation area between Cairns and Cooktown late last week, Mr Murray Wilcox, QC, the Australian Conservation Foundation president, said he was appalled at the rural-residential development of freehold rain forest in the area.

"It is an odd situation that people are being invited to buy land in what is referred to as a tropical paradise, and indeed it is, or was.

"And yet because of the nature of the development, that rain forest is going to disappear and it is going to become quite ordinary country."

Mr Wilcox later said the foundation was considering a media campaign warning people of destruction of forest land in the area, and the pitfalls of buying any.

He told a seminar, organised by the Cairns and Far North Environment Centre and the Wildlife Preservation Society of Queensland: "It seems to me it is impossible to divide land into what is called rural-residential lots, which are as small as one hectare and retain rain forest.

"The road pattern itself is devastating. But by the time you then clear for a house, a driveway and the sort of things which people like to put around houses,

there just isn't going to be any rain forest.

"And of course if there was, it would be so fragmented, it would have no viability."

Mr Wilcox told the seminar on the future of the rain forest and changing social values that the Cape Tribulation and Cow Bay lowland forest situation was "a matter of very extreme urgency" in the campaign to stop destruction of remaining rain forest areas in Queensland.

"What has happened at Cow Bay, I suspect, is not only appalling, but the forerunner of what will happen. If it is good enough for one developer, I guess other people are going to say it is good enough for others."

Mr Wilcox said there was need for "stamina and plain guts" to fight the issue.

"I have no doubt that before the Queensland rain forest campaign is over — particularly in logging towns — there will be a fair degree of bitterness which will be unpleasant," he said.

"But nothing is achieved without being prepared to undergo that. Of course in the long run, people look back and say: 'Yes, those people were right.' We would be shutting our eyes to reality to deny that is likely to occur."



## Lack of Forestry Funding

Brisbane THE COURIER-MAIL in English 21 Jun 82 p 11

[Text]

CAIRNS.— Lack of money is hampering the Forestry Department's inadequate plantation program in north Queensland, according to a senior forestry officer.

Mr Jim Bardsly, a District Forester based at Atherton, told the Future of the Rain Forest seminar at Cairns the replanting program was "probably too little, too late".

Mr Bardsly said: "I probably shouldn't be saying this, but we can't get enough funds to sustain our existing pines plantations program at the level we would like to have it."

He had been asked why foresters were not harvesting native tree plantations on a longer rotation basis, perhaps every 40 to 50 years.

"The big thing against it, I suppose, is just profit and loss," he said.

"Conifers produce higher marketable volume than almost any hardwood species."

A world authority on rain forest, Dr Len Webb, an Honorary Fellow in the Australian School of Environmental Studies at Griffith University in Brisbane, made a plea for what he called "social forestry".

CSO: 5000/7557

# SHIFT TO SOFTWOOD SEEN AS BOON TO SAVING FORESTS

Brisbane THE COURIER-MAIL in English 25 Jun 82 p 11

[Text]

**CALOUNDRA.—** The future shift towards softwood production should be a boon for those wanting native forests preserved, delegates to the Australian Timber Industry Stabilisation conference were told yesterday.

The Victorian Forests Commission forest economist, Mr Peter Greig, said this shift would result in forestry operations being concentrated into much smaller areas because the softwood resources were less scattered than the hardwood resources.

"On average, the softwood plantations will be on lower slopes in less sensitive landscapes than the hardwood forests," he said.

"A much greater proportion of production is likely to come from private property which will not necessarily require the same level of environmental care, particularly aesthetic care, as that required of publicly-owned forests managed for multiple purposes.

"These changes should leave a much greater proportion of the native forests available for conservation and recreation — reducing the potential conflicts between these requirements and wood production operations."

Mr Greig said that where hardwood logging did continue, the costs of environmental care were likely

to be greater in relation to the plantation operations. This would discourage the use of all but the most accessible and highest quality hardwood forests, and those which could produce specialty timbers at competitive prices.

When planning new investments, individual sawmillers and logging contractors should try to locate them as close as possible to a log resource which could provide good quality logs at low environmental costs.

Mr Greig said prescriptions laid down for environmental care during forestry operations would not become more stringent, but were likely to become better supervised.

At present, the prescriptions were based mostly on intuition and experience, but would become more refined as investigations were done into the relationships between forestry operations and environmental damage.

"The creation of parks out of wood production forests is a gain, presumably, to recreationists and to nature conservation and a loss to wood production," he said.

"But there is very little quantitative evidence that the number of recreation visitors to a forest changes significantly as a result of such land use changes.

"Numbers do seem to increase immediately the sign 'park' becomes visible, but I suspect that this is a short-term consequence of promotion rather than a long-term shift in demand."

CSO: 5000/7557

# COUNCIL IN NEW BID TO STOP EFFLUENT WITH 24D, 245T

Perth THE WEST AUSTRALIAN in English 24 Jun 82 p 45

[Text]

THE Cockburn City Council wants the State Government to take immediate action to halt the disposal of effluents by a Kwinana factory producing herbicide containing the chemicals 24D and 245T.

At its meeting on Tuesday night the council decided to write to the Government asking for an immediate stop to the dumping of 24D and 245T into the water table.

The council is concerned at the method of disposal that the Minister for Water Resources, Mr Mensaros, has told Chemical Industries (Kwinana Pty Ltd) to use as an interim measure.

Earlier this month the company was given six months by the Minister to develop a satisfactory method of effluent disposal and a further six months to have it fully implemented.

## Pit

It was told to stop its current practice of discharging liquid waste into an open pit and to

come up with an acceptable alternative.

In the meantime, the company was instructed to separate its process effluent from cooling water and inject it through a bore into the lower layer of salt-water aquifer.

The council fears that effluents containing 24D and 245T could leak into the fresh-water aquifer.

The council also resolved to write to the other councils in the area seeking their support for its stand.

The chairman of the Effluent Licensing Advisory Panel, Mr John Abbott, said yesterday, that the Government was as anxious as the council that the discharge into the aquifer should cease.

The only other option was to close the factory.

He was convinced that the effluent, which was heavily concentrated, would sit at the bottom of the salt-water aquifer.

It could not rise to the level of the fresh-water aquifer.

CSO: 5000/7557

BRIEFS

RIVER SALINITY PROBLEM--FOUR of the State's most important rivers contain salt above the level recommended by the World Health Organisation as being fit for human consumption. Salinity in once fresh rivers is worse than that experienced anywhere in the world, including North American, according to a Public Works Department researcher. The worse affected are the Swan-Avon, Blackwood, Murray and Collie. Though remedial steps and research are being undertaken by four government departments, the CSIRO and scientists at the University of WA and the WA Institute of Technology, there is no simple solution. The Minister for Conservation and Environment, Mr Laurance, said yesterday that it was difficult to see what steps could be taken to modify agricultural practices in the Avon and Blackwood catchments to reduce their salinity enough to make them usable as a water supply. Reforestation would affect such a big proportion of farmed catchments that it was entirely impracticable. The problem resulted from the extensive clearing which created a thriving agricultural industry. "This industry contributes substantially to the wealth and well-being of the whole community," he said. "With present agricultural systems, it is difficult to avoid salinisation. Any form of land development is bound to result in some environmental change." Mr Laurance said that there was an increasing awareness in the community of the importance of controls on land use to minimise salinisation. [Hugh Schmitt] [Text] [Perth THE WEST AUSTRALIAN in English 19 Jun 82 p 3]

CRACKDOWN ON LAND SPOILERS--A TOUGHER line against people who despoil WA's remote beauty spots has been foreshadowed by the Minister for Conservation and the Environment, Mr Laurance. Mr Laurance issued a warning yesterday to tourists, fishermen and prospectors about leaving rubbish behind them and cutting vehicle tracks through dunes, pasture and bush. He said he preferred persuasion and education to get people to do the right thing. But if they persisted in damaging the environment he would have to invoke the powers available under Section 164 of the Land Act. That could mean a fine of \$1000 for anyone caught dumping rubbish or running a track through crown land. In addition to any fine, the guilty party could be liable for the cost of removing rubbish or necessary restoration work. [Excerpt] [Perth THE WEST AUSTRALIAN in English 23 Jun 82 p 42]

CONSERVATION DISCUSSION PAPER--A CALL for wide public discussion on conservation has been made in Perth. A national conservation strategy based on agreed principles could make it easier to resolve future conflicts between

conservation and development, said Mr M. Shevlin of the Federal Department of Home and Environment's task force. But ideas from all sections of the community were essential for the strategy's success, he said. Mr Shevlin visited Perth to explain a national conservation strategy for Australia. "We are not concerned only with preservation," he said. "Conservation is primarily people." The Federal Government has circulated a discussion paper, "Towards a national conservation strategy." It was based on the recommendations of a national seminar in Canberra last year and will be open for public discussion until September 15. A paper based on this debate will be prepared by December for circulation before a second national conference next February. The final draft will be presented to the Premiers' conference next June for endorsement. Plans for a national conservation strategy developed from the publication two years ago of a world conservation strategy prepared by the United Nations environment programme and the World Wildlife Fund. It showed that development could be sustained only by conserving the living resources on which it depended and by the integration of development and conservation. These included saving rain forests, controlling salinity, recycling non-renewable resources and improving water use. [Perth THE WEST AUSTRALIAN in English 24 Jn 82 p 47]

CSO: 5000/7558

## BRIEFS

FOREST POLICY CRITICIZED--Wellington (Press Assn)--Government plans to merge the Lands and Survey Department and the Forest Service have been criticised by the Native Forest Action Council. The council president, Miss Gwenny Davis, likened the proposal to a merger between the shark and the kahawai. She said the Forest Service would dominate the merged organisation. "People who are mostly interested in the use of land for commercial purpose are suddenly going to gain a big influence over land use decisions on all publicly owned lands, including national parks, reserves, pastoral lands and most of the Southern Alps." Miss Davis said that there was a great danger that the Forest Service's "crack timber troops" would march into the new structure and take it over from the outset. The Labour Party said the proposed merger raised urgent questions about the Government's intentions. The Labour Party caucus committee on primary production will approach the Minister of Lands and Forests, Mr Elworthy, this week to seek "an authoritative briefing on the whole matter." [Text] [Auckland THE NEW ZEALAND HERALD in English 13 Jul 82 p 3]

WETLAND DRAINAGE OPPOSED--Wellington (PA)--A scheme to turn about 3000 hectares of Wairarapa wetland into farms is opposed by the Minister for the Environment (Dr Shearer). He said yesterday he was personally against the proposed Lake Wairarapa polder scheme which would destroy more of the country's "valuable and rapidly diminishing wetlands." In a statement issued after he had visited the lake yesterday to look at the Wairarapa Catchment Board scheme, he said: "Projects like this are no longer appropriate for the times. Less than 10 per cent of this country's original wetlands now remain and these are under continuous pressure for conversion to farmland." The Wairarapa scheme plans to convert 20 per cent of the lake and adjoining wetlands into 40 farms by means of a polder or dyke. Dr Shearer said it would be fully investigated before any decisions were made. He said the thrust of development in the south Wairarapa should be towards increasing the productivity of existing farmland, "rather than destroying an incomparable wildlife resource." [Text] [Christchurch THE PRESS in English 14 Jul 82 p 2]

CSO: 5000/9074

PROGRAM PROPOSED FOR PEARL RIVER POLLUTION PROBLEMS

Guangzhou GUANGZHOU RIBAO in Chinese 5 Jun 82 p 1

[Article: "Serious Environmental Pollution of Pearl River Delta. Discharge of Guangzhou Industrial Pollutants Urgently Requires Control and Treatment"]

[Text] The correspondent obtained the following from the provincial discussion meeting currently underway in Guangzhou on the relationship between a survey of the seacoast at the mouth of the Pearl River and production. Scientific surveys have shown that except for Hong Kong and Macao, Guangzhou is the largest source of industrial pollutants discharged into the Pearl River Delta area, and treatment and control is a top priority matter.

Environmental scientists centered their surveys within the Pearl River Delta on 14 cities and counties including Guangzhou, Shenchuan, Foshan, Jiangmen, Dongguan, and Shund. Within this 20,000 square kilometer area, thousands of fairly large industrial plants and almost 10,000 production brigade operated enterprises constitute sources for pollutants that have polluted the seacoast along the mouth of the Pearl River. Guangzhou's industries annually discharge more than 684 million tons of effluent in addition to a large amount of domestic sewage making the total amount of damaging materials discharged annually from Guangzhou 7.53 times more than the total amount discharged by the other 13 cities and counties. Analysis of effluent showed the principal seven pollutants of the Pearl River Delta region to be phenol, chemical oxygen consumption,[sic] arsenic, sulfides, cyanides, heavy metals, and pesticides.

The Pearl River Delta is the province's most economically flourishing and most densely populated area; it is also a major commercial port for maritime shipping. Protection and improvement in the environment of the Pearl River estuary, and accelerated control over existing sources of pollution holds major significance. The scientific workers proposed the following pollution control measures: First was stringently to control the total quantity of industrial pollutants discharged. For Guangzhou's major sources of industrial pollutants, the Guangzhou Paper Plant, the Guangzhou Nitrogenous Fertilizer Plant, the Zhujiang Paper Plant, the Guangzhou Overseas Chinese Sugar Refinery, the Guangzhou Steel Plant, the Guangzhou Petrochemical Plant, The Guangzhou Chemical Fiber Plant, and the Guangzhou Agricultural Pesticide Plant, drastic measures must be taken to innovate technologies, replace equipment, and to

think of ways in which pollution can be controlled. Second, the effluent treatment system projects for the 10 large sources of pollutants in Guangzhou on which construction has already begun should be mounted at once and additional special funds allocated to advance the date of project completion. Third is doing a good job of planning patterns on the Guangzhou segment of the river. For plants that pollute seriously or greatly, treatment of pollutants should be particularly strict, and no more such plants should be permitted to be built within or around the water source protection area. Fourth is strict control over ship discharges. This entails the establishment and perfection of an environmental monitoring organization for Huangpu Harbor and Guangzhou Harbor to strictly control discharge of pollutants by ships regularly entering and leaving the harbors.

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CSO: 5000/4056



ACTION TAKEN TO PREVENT POLLUTION OF DONG JIANG

Guangzhou GUANGZHOU RIBAO in Chinese 19 Jun 82 p 1

[Article by Yuan Zhouzhu [5913 0719 3796]: "Provincial Government Allocates Funds To Set Up Dong Jiang Water Monitoring Network. Prevents Pollution of Water Sources and Protects People's Health"]

[Text] In order to keep the waters of the Dong Jiang clean, the Provincial People's Government recently allocated special funds to permit the building of more environmental monitoring stations along both banks of the river to form a monitoring network for the Dong Jiang water system.

The Dong Jiang is presently the source of water for use in daily life and in industrial and agricultural production for the residents of Guangzhou and Hong Kong; it is also the source of water for drinking and industrial use of the broad masses of people who live along both banks of the river. Protection of the waters of the Dong Jiang is a powerful desire of the broad masses of the people. For this reason, the Provincial People's Government last year promulgated the "Provincial Regulations on Dong Jiang Water System Protection," which required all levels of the people's government and all units along the river to carry out this task in earnest. All-around Dong Jiang water system environmental protection work includes the following: All units discharging wastes into the Dong Jiang water system may not discharge such wastes without approval of environmental protection departments. All stacking of equipment along the banks of the river must likewise be approved by environmental protection departments. Ships, wharves, warehouses, and oil storage depots are forbidden to discharge wastes directly into the water system. Management of the discharge of wastes from cities and towns is to be intensified. Effective measures must be taken to enhance protection of headwater forests and river bank protection forests on both banks of the river so they will not be cut down. All communes and brigades within the river basin must use pesticides and chemical fertilizers sensibly, and must prevent them from being washed into the river.

The building of the Dong Jiang water system monitoring network will provide both timely and accurate data on the state of changes in Dong Jiang water quality, and will provide scientific data for the launching of pollution prevention and control studies pertinent to the adoption of technical countermeasures and formulation of environmental protection plans for protection of water sources.

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CSO: 5000/4056

SOME SHANGHAI POLLUTION PROBLEMS AIRED

Shanghai WEN HUI BAO in Chinese 26 Jun 82 p 1

[Article: "Why Do Attitudes on Pollution Control Differ at Two Plants at the Same Place in 'Three Pollutions' Sensitive Area. When Serious Thought is Given and Measures Implemented, Residents Are Happy; When Treated Lightly and Management Is Poor, Masses Have Many Complaints"]

[Text] A few days ago the correspondent visited the Hetian district in Zhabei where the residents enthusiastically praise the Shanghai Polyester Fiber Plant for its consideration toward residents in having conscientiously controlled environmental pollution. At the same time they criticize the Shanghai No 1 Chemical Dyeing Plant for its poor management, which has resulted in the escape to the outside of large quantities of harmful gases to the impairment of the health of residents. Recently the district government sent individual notices of commendation and criticism to these two plants.

In Heitian District dwellings are packed closely together and industrial plants are concentrated. Many plant buildings neighbor residences, and the people call this a "three pollutants" (waste water, waste gas, and industrial residue) sensitive area. The Shanghai Polyester Fiber Plant and the No 1 Chemical Dyeing Plant, both of which are part of the chemical industry system, are located in this area. Formerly the Shanghai Polyester Fiber Plant daily discharged large quantities of boiler smoke and ash, plastic dust, and irritating gases, which seriously polluted the environment. The residents make up a jingle about this plant as follows: "The polyester plant is a lousy plant that puts out dust like 'snowflakes' that cause suffering for surrounding residents. When you wash rice or do laundry, you have to open an umbrella, and when it is stifling hot, you do not dare open a door or window." At that time the residents regularly protested to the plant and demanded that the plant move. Mutual relations were extremely tense.

During the past 2 years, this plant's leaders have put control of the "three pollutants" in an important position, putting themselves in the place of the residents. The secretary and plant manager regularly go to the homes of surrounding residents to take a look around, carefully listen to views, and learn through personal experience about pollution dangers. After returning to the plant, they act vigorously to make technical improvements and organize forces to manufacture all kinds of new dust elimination equipment to solve the

problem of smoke and ash emissions from high smokestacks. They have also brought under control the glittering DMT powdery dust that used to fly all over the air, annually recovering 20 tons of raw materials. In the realm of prevention of toxic gas emissions and the elimination of noise, they have done much. They have also planted trees and flowers in open spaces, effecting great improvements in both the internal and external plant environment, and the public is quite content.

On 27 March this year, residents went to the plant to report that smoke and ashes were again fluttering down. The plant manager and other personnel concerned immediately went to residences to gain an on-site understanding of the problem and to discover the actual circumstances. They carefully checked their equipment, but were unable to find any defects. Finally they discovered that accumulated ashes at the bottom of the smokestack had not been promptly removed. On the 30th, the plant resolutely decided to shut down the boilers to remove the ashes. The single day's work stoppage cut output value by 100,000 yuan and profits by 10,000 yuan; nevertheless, this plant adhered to proceeding from the welfare of the residents; it would rather incur losses itself than offend the residents. The workers worked until dawn of the second day removing a total of 40 tons of accumulated ashes. Recently the plant again revised its environmental regulations making specific people responsible for managing equipment, cleaning it regularly, and inspecting and repairing it periodically.

A few days ago when the correspondent visited the polyester fiber plant, he also walked around the surrounding residents' homes where he saw five or six old retired workers drinking tea, reading, and chatting at a lane hall. They said that formerly during the summer it was either being covered with dust from head to toe or being gassed, and they never thought that they would be able to sit so serenely and enjoy the coolness. Now the plant's leaders go once or twice every month into the lanes to listen to the people, and once or twice each year they invite the residents to the plant for a meeting where they discuss control of pollution together. It really takes a change of attitude to have a change in environment.

However, not far away from the polyester fiber plant is the Shanghai No 1 Chemical Dyeing Plant where a pollution accident aroused violent dissatisfaction on the part of residents. Management at the plant was poor and the system of personal responsibility not strict. On 2 May, five operators left their positions in the third phthalocyanine blue workshop one after another and without authorization. As a result some raw furnace oil heated up beyond specifications and a large quantity of gas was emitted polluting the environment. Zhabei District authorities concerned fined the plant 5,000 yuan for this. Following the accident, the No 1 Chemical Dyeing Plant learned a lesson and set up a three man supervisory unit that patrols on inspection 24 hours a day to check equipment and to check labor discipline. They also installed some simple dust elimination equipment, and some large equipment for control of the "three pollutants" is being designed.

## Postscript

Summer has arrived and control of pollution by the "three pollutants" is a problem about which the masses are concerned. Because of problems in this city with pollution by the "three pollutants," fights have broken out between industrial plants and residents. The Shanghai Polyester Fiber Plant and the No 1 Chemical Dyeing Plant provide both positive and negative experiences in how to handle this problem. The key lies in industrial plant units taking a positive attitude and adopting genuine measures to control the "three pollutants," and in listening to the views of surrounding residents, with much publicity conducted to solve problems.

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CSO: 5000/4058

OIL TANK LEAK INTO HUANG HE REPORTED

Lanzhou GANSU RIBAO in Chinese 30 May 82 p 1

[Article by Qiu Jing [6726 7231]: "Lanhua Chemical Fertilizer Plant Storage Tank Leaks Oil, Polluting River. Municipal Environmental Protection and Other Departments Studying Stringent Measures"]

[Text] Recently an accident involving a crude oil spill occurred on the section of the Huang He that passes through Lanzhou. The Lanhua Company's Chemical Fertilizer Plant was directly responsible for causing this accident. It resulted because a 10,000 ton oil storage tank did not meet specifications. Formerly a gas storage tank, which had not been repaired for many years, it leaked the oil. The oil went from the ground surface into an underground well and then into an underground pipe and was discharged into the Huang He. The chemical plant lost about 225 tons of crude oil, part of which flowed into the Huang He. After comrades in the Lanzhou Municipal Environmental Protection Office put forward to appropriate personnel in the chemical fertilizer plant their views on the need to take rapid action to halt continued discharge of oil into the Huang He at about 6:00 pm on 11 May, the chemical plant leaders serious attention was not aroused and nothing was done that same night. It was not until the following day at 10:30 am that the spill was stopped, which meant that oil had been discharged into the Huang He for 10 more hours, thereby spreading the pollution and continuing the loss of resources.

The Lanzhou Municipal Environmental Protection Department and units concerned will deal severely with this accidental pollution of the river in accordance with article 32 of the environmental protection law. The Environmental Protection Department also hopes that all entrepreneurial units will learn a lesson from this accident.

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CSO: 5000/4056

HALT TO UNAUTHORIZED FELLING OF TIMBER DEMANDED

Fuzhou JUJIAN RIBAO in Chinese 15 Jun 82 p 1

[Article by Commentator: "Get to the Bottom of Mountain Forest Destruction and Timber Speculation"]

[Text] During the past several years, the two evil tendencies in Fujian Province of reckless cutting and denudation of mountain forests and speculation in timber have run rampant without being stopped for a long time. What is the root cause? The broad masses of the people believe that the root cause is some management and leadership units, some personnel who share authority over the flow of timber, and some commune and brigade cadres abuse their authority for private advantage, contravene the law and violate discipline causing havoc. The timber cases preliminarily brought to light everywhere recently show that this belief of the masses is correct, and that the situation is far more serious than people originally understood it to be.

In the face of an onslaught of "sugar-coated bullets" from the bourgeoisie, some people blinded by greed have lost the moral character of honesty in performance of official duties that they should have, and have gone so far as to treat as capital the authority turned over to them by the people, engaging in dirty deals with opportunistic timber swindlers in society and degenerating into a state of unscrupulousness. They sell timber that is within plan quotas, issue timber export permits, clear railway cars, and issue felling permits; they accept filthy lucre and tainted goods from speculators and profiteers in timber in return for which they sign certifications, issue clearances, or support "trafficking in the green mountains," and the reckless denudation of forests. They also stir up sentiment for reckless cutting of collectively owned mountain forests, which they cut bare and divide up completely. They also use their official positions to monopolize sales of timber and seek enormous profits. For example, after some power holders in the Longyan County (presently a municipality) Forestry Bureau and in the Yongding County Forestry Bureau separately accepted gifts of color television sets from timber speculators and profiteers in Huian and in Chaozhou in Guangdong Province, they sold large quantities of China fir timber from within plan to them for resale at a profit. After a section chief in the Forestry Protection Section of the Pingnan County Forestry Bureau received bribes, he arranged timber export permits for timber speculators and profiteers. The timber inspection stations at Shangli, Guangze, Chongren, and

Wuping in Jianning cleared the movement of railroad cars smuggling timber after receiving "money to purchase the right of way," and "passage fees." Not only did the deputy station chief at the Nankengzai Forestry Station in Sha County hire workers to recklessly cut mountain forests owned by collectives, and sell timber at a profit, but he also accepted bribes in return for which he indiscriminately issued felling permits resulting in the illegal felling of more than 3,000 cubic meters of collectively owned mountain forests...

Numerous frightening and astounding facts tell us that as a result of their own seriously unhealthy tendencies, some cadres either open wide the door to economic criminals engaged in timber profiteering and speculation, or else become protectors of criminals. Some wallow in the same mire as criminal elements in society, collaborating with them in every way and acting in collusion with them. Just think, in the fight against economic criminals, how can one not investigate the root causes for the destruction of forests, and the speculation and profiteering in timber? Unless this is done, how can this evil wind be stopped? Lenin pointed out that "As long as there is such a thing as corruption, or as long as there is the possibility of corruption, there is no way to talk of governing and there is no way in which to govern," the reason being simple, namely that "every action will come to nothing, and no results can be produced."

We must unflaggingly carry out the pertinent decisions of the Central Committee and the Provincial CCP Committee. In the campaign against economic crimes, those criminals who seriously damage mountain forests and go in big for speculation and profiteering from timber must be seized firmly, and their cases handled with the power of a thunderbolt and the speed of lightning. Particularly in cases involving use of official position and the perversion of justice for bribes, when circumstances are serious and the cadres who have committed the crimes have an abominable attitude, following investigation of the situation, they should be severely punished according to the law. At the same time, diligent reorganization should be carried out in certain units to solve problems of unhealthy tendencies on the part of some cadres, the serious offenders receiving needed party and government disciplinary punishments. Only in this way is it possible to really use laws to manage the forests, to put a stop to unhealthy tendencies, and to protect forest resources so as to make the most of Fujian Province's forestry industry production and permit the multitudes of mountains in the province to contribute their treasures to the building of the four modernizations.

9432

CSO: 5000/4058

FIVE BEIJING AREAS BEGIN SHELTER FORESTS BUILDUP

Beijing BEIJING RIBAO in Chinese 12 Jun 82 p 1

[Article by Sun Wei [1327 5898]: "Five Main Windblown Sand Areas of Suburban Beijing Begin Building of Shelter Forests. Improve Capital's Environment and Conquer Windblown Sand Damage. This Spring 3.82 Million Trees Planted in Fulfillment of 27 Percent of Planned Quota"]

[Text] In order to improve the capital's environment, a comprehensive building of shelter forests was begun this spring in the five major areas threatened by windblown sand on both banks of the Kangzhuang, Nankou, and Yongding Rivers, between the Chaobai and Yanxi Rivers, and on both banks of the Chaobai River. As of May, 3.82 million trees had been planted in fulfillment of 27 percent of planned quotas in the five areas.

These five windblown sand threatened areas involve the seven counties and prefectures of Yanqing, Changping, Daxing, Fangshan, Fengtai, Miyun, and Huairou covering an area of more than 1.5 million mu, which surround Beijing on four sides and directly affect the living environment of the people in the capital and consistently high agricultural production.

In order to bring these windblown sand areas under control rapidly, with the concern and support of the Central Committee, these several counties and prefectures became a part of the national "three northern" shelter forest project. The Municipal CCP Committee and the municipal government made these five windblown sand areas key projects, requiring the building of shelter forests before 1985. They sent municipal forestry inspection teams to work with counties and prefectures in planning and designing, and provided appropriate financial assistance to counties and prefectures for expenses.

As long ago as the fall and winter of 1980, Kangzhuang in Yanqing County and Nankou in Changping County began controls. Both counties set up command posts and organized central government and municipal units within the county, staff and workers in county units, as well as garrison forces to dig ditches and fill in land, and to plant trees to make forests. By this spring, both places had fulfilled more than one-third of planned quotas by afforesting 177 tracts of shelter forests covering an area 250,000 meters in length in which more than 1.9 million trees were planted.



Last winter and this spring, the counties and prefectures of Daxing, Miyun, and Huairou fulfilled planning and design work for Yongding River, and between Chaobai River and Yanxi River. They also put them into effect level by level and actively organized construction. In the Yongding windblown sand area of Daxing County there are 12 communes, 298 production brigades and 780,000 mu of land including more than 300,000 mu of sandy land innundated by the Yongding River. Plans call for the creation of 721 afforested strips and the widening of 112 forest belts over a total of 1,170 kilometers with the planting of 7.1 million trees. In order to turn this plan into reality, during the tree planting season this spring, this county made a key demonstration project out of the four communes of Anding, Banbidian, Weishanzhuang, and Huangcun traversed by the Xianolong River. They set up afforestation leadership teams to carry out centralized preparation of the land, centralized construction, centralized specifications, and centralized planting of trees for the entire project, tree planting quality standards being rather high. The county government promptly convened on-site meetings to give impetus to the building of the entire shelter forest.

9432

CSO: 5000/4058

GOVERNMENT NAMES COMMITTEE TO PROBE TOXIC CHEMICAL LEAKS

Kingston THE DAILY GLEANER in English 16 Jul 82 pp 1, 18

[Text] A COMMITTEE of inquiry was appointed yesterday by the Minister of Public Utilities and Transport, Hon. Pearnel Charles, to investigate the circumstances surrounding the entry of toxic chemicals from the lumber-treatment plant at Wherry Wharf into the public water system.

The committee was set up on the directive of Prime Minister, Rt. Hon. Edward Seaga, that immediate investigations be carried out into Tuesday's incident of feedback of poisonous chemicals into the water supply of the downtown area of Kingston.

Prime Minister Seaga, has also directed that all connections of chemical industrial plants to the public water supply system throughout the island, be inspected and approved by the National Water Commission. This he saw as necessary to reduce or eliminate any recurrence of the nature of the Wherry Wharf incident, Mr. Charles said.

The Committee will be chaired by the Director of the Advisory Unit in the Ministry of Public Utilities, Mr. Roy Alexander. Other members are; Mr. Leo Lawson, Director of the Office of Disaster Preparedness; Mrs. Beverly Miller, National Resources Division of the Ministry; and a representative of the Ministry of Health.

According to the Minister, the committee will not only investigate the Wherry Wharf incident but will report to the Ministry their findings and make recommendations in order to nullify other incidents which prove harmful to the public.

On Tuesday, 2,500 gallons of chemical solution from a Wherry Wharf tank with a capacity of 20,000 gallons accidentally leaked into the water system. The solution was reported by the Managing Director of Wherry Wharf, Mr. Hugh L. Wilson, to contain a small percentage of Arsenic Pentoxide, Copper Oxide and Chromic Acid mixed with water with a concentration of less than one per cent. It is used to treating lumber making it resistant to termites.

Meanwhile the Pharmaceutical Society of Jamaica has expressed its concern for the citizens who have been exposed to chemical contaminated water. In a news release the Society urged persons in the water contaminated area not

ignore symptoms of gastrointestinal disturbances, dizziness, restless and muscular cramps which are associated with these toxic chemicals.

The Society further called for the establishment of two poison control centres, one to be located in Kingston and the other in Montego Bay. These centres should be manned by specialist pharmacists. It was noted that one such centre was started in Montego Bay in 1975 but did not become an independent unit.

Jamaica with its largely agricultural economy has experienced its share of fatalities from toxic pesticides and food contamination in recent years, the Society said. However, the Pharmaceutical Society commended environmentalists who have encouraged industrial firms to adhere to the necessary precautions for a healthy environment.

Householders were assured that pharmacists islandwide will readily provide the necessary information on poisoning and will maintain links with doctors and hospitals in the event of acute emergency problems.

CSO: 5000/7554

REFINERY'S FLARE SYSTEM CAUSING ENVIRONMENTAL PROBLEMS

Port-of-Spain TRINIDAD GUARDIAN in English 12 Jul 82 p 3

[Text]

TEXACO Trinidad Inc., is considering relocating its flare system situated south of the Pointe-a-Pierre refinery, according to George Weekes, President-General of Oilfields Workers Trade Union.

Mr. Weekes said yesterday that he was told by Lloyd Austin, General Manager, that the company has appointed a team to study the flare system and to see how best it could be relocated.

The OWTU leader said too that the company indicated it would relocate one of the systems which is situated in the project area but first a proper and safe area has to be found.

Mr. Weekes invited Mr. Austin to tour Battoo Avenue, Marabella, where complaints are being made by residents concerning "rumblings" and intense heat from the flares. But Mr. Austin said he could not make the tour and sent a senior officer, Mr. Look Tong, instead. The tour took place on Wednesday.

The residents pointed out to Mr. Weekes that they want the company to relocate the other "flambeau" since that is the one which caused them to panic recently, when it sent flames "very high" into the air and intense heat to their homes.

**CHILDREN DISTURBED**

Officers of the OWTU placed on tape the problems related by the residents for study.

Mr. Weekes said that he

saw for himself how the Guaracara River overflowed its banks and the flooded waters running under houses.

"I heard how the children cannot study at nights because of the disturbing sounds from the flare system. I heard how many parents have to send away their children to other districts because they cannot study at nights," said Mr. Weekes.

The OWTU leader described the situation regarding the flare system and flooding of the Guaracara River as "frightening" to the residents. He is hoping that something will be done quickly to assist them in their plight.

Recently a fire took place at one of the flare system and many residents who live nearby had to run out of their homes in their night clothes.

Following the incident, the residents called a public meeting and discussed the "dangers" they are facing, and outlined their problems to Parliamentary Representative Winston Hinds (PNM Pointe-a-Pierre).

They followed up their call for removal of the flare system by inviting Mr. Weekes to tour the area to see for himself how they were being affected.

## TRINIDAD AND TOBAGO

### BRIEFS

TOBAGO BEACH DESTRUCTION--IT IS NOW time that the public is made aware of a very sad state of affairs that prevails in our sister island, Tobago. On the Western Coast where lie our most beautiful beaches, Grafton Bay and Great Courland Bay, tons of sand are being removed daily for the purpose of constructing roads, etc., by both private and Government organisations. This has been taking place for about two years but within the past year it has been occurring on a much larger scale. We have witnessed throughout the day truckloads of sand being transported openly from these two beaches. If this pillaging continues at this rate for much longer these beaches shall be irreparable. About six feet of sand has been taken from both beaches so that the underlying black rock is now exposed. We have spoken to the authorities concerned but to date there has been no response. Apparently Government does not care about the livelihood of our fishermen, our fragile environment and tourist industry and the citizens are oblivious to this mass destruction despite the fact that they are the ones who drive the vehicles to do such damage. If it is not possible for Government to import red sand from Trinidad for construction purposes and they intend to break the laws and use beach sand, why can they not drive a few extra miles to some remote barren area where the damage would not be so severe instead of our most frequented West Coast and future resort sites? We are now appealing to the Trindiad and Tobago Field Naturlists Club and other organisations to assist us in putting an end to this extensive destruction. [Excerpts] [Port-of-Spain TRINIDAD GUARDIAN in English 10 Jul 82 p 9]

CSO: 5000/7554

## PLANTS PROMISE CHEAP AIR POLLUTION MONITORING

Jerusalem INNOVATION in English No 80 Jul 82 pp 5-6

[Text] Haifa--Carefully selected plants have been set out over extensive areas near the Haifa Refineries in a program designed to develop a low cost air pollution early warning system. This work is based on research recently concluded by a team of scientists at the Technion's Faculty of Agricultural Engineering in cooperation with the Hebrew University's Department of Atmospheric Sciences.

The monitoring of potentially dangerous pollutants in the air is now a prohibitively costly process. In order to do a thorough job of information gathering, many pieces of expensive equipment must be installed and skilled personnel employed to collect readings over prolonged periods of time.

The work carried out by researchers here shows that more economical methods are available for the long term monitoring of extensive areas. It has been demonstrated that appropriately chosen plants can provide valuable qualitative information on the diffusion of fluor, ozone and sulphur dioxide in the atmosphere.

Thus the researchers found that a gladiola variety quickly indicated the presence of fluorides in the air. Experimentation showed that visible damage to more than 30 percent of the plants' leaf area or an analysis that yields more than 50 ppm of fluorides in those leaves, indicates concentrations dangerous to man and livestock.

Photochemical smog and ozone can be monitored through the use of certain sensitive tobacco varieties and of pinto beans. The former leaf damage after exposure to concentrations as low as [number indistinct] ppm, while the latter develop dark spots after only four hours' exposure to 0.09 ppm. After exposure during up to two months, the average ozone pollution during that period can be estimated from the amount of damage.

Alfalfa was shown to be a reliable monitor of sulphur dioxide pollution. Leaf damage and desiccation resulted from continuous exposure to concentrations as low as 0.05 ppm. Other plants, among them eucalyptus trees and several pine varieties proved to be sensitive to that pollutant although they usually could withstand much greater concentrations than alfalfa.

A common lichen, *xanthoria parietina*, was found to be a reliable indicator of the presence of  $\text{SO}_2$  and other pollutants: abundant in all other areas of the Carmel range, this organism becomes successively less common as one approaches the industrial areas near the foot of that mountain and completely disappears in their immediate vicinity.

The detailed study indicates that a carefully thought out system of plantings, near suspected sources of air pollution, can provide a reliable biological early warning system at a cost any community can afford.

CSO: 5000/4714

## TUNISIA

### PLANS TO COMBAT EROSION, DESERTIFICATION OUTLINED

Tunis DIALOGUE in French No 405, 7 Jun 82 pp 20, 21

[Article by Othman Gharbi: "Holding Back the Desert"]

[Text] 5 June 1972 - 5 June 1982: 10 years have passed since the Stockholm appeal for worldwide awareness of ecological problems.

Today in Nairobi, by encouraging this awareness to take root even more outside Europe, those favoring it can measure the ground covered--and that left to cover.

For Third World countries, the question of environmental protection is especially acute and vital, as it is a matter of safeguarding at any cost the very sources of minimum subsistence, which in many cases are either undeveloped or threatened.

In North Africa there has been a program of action for several years for the overall protection of the Mediterranean; several coastal states participate in it. Priority actions have been identified, in particular the protection of the soil against erosion and desertification.

Whereas in the past, sand-filled hourglasses measured the passage of time, today sand often devours life.

This means that the countries facing the encroaching desert, the deterioration of arable land due to the disorderly use of mechanized agriculture, sprawling neo-Roman urbanization--which avidly consumes agricultural land--and, sometimes, catastrophic floods, are not merely struggling against "nuisances," although efforts are also being made there to humanize the environment (see DIALOGUE No 393, 15 March 1982).

#### Green Belt

The scope of the task makes closer and more efficient international cooperation necessary, in conducting studies as well as carrying out pilot projects in each country concerned. Among other things, the "Green Belt" program for North Africa is to be reactivated; it should receive at least as much attention as the present "Blue Plan" for the Mediterranean Sea itself.



In Tunisia, according to expert technicians, 64 percent of the country's surface, or 10 million hectares, are affected to a greater or lesser degree by the phenomenon of desertification. This leaves only about 5 million hectares of usable agricultural surface, which is vulnerable to erosion.

It is said--although the figure has not been scientifically verified--that every year about 10,000 hectares are taken over and rendered sterile by the desert or erosion.

It is true that a large proportion of this land is arid, semidesertic or steppe-like in the center and south of the country. But is it known that even the north (governorate of Biserte), agricultural land is affected by sandstorms from the seacoast?

Before the country's independence, the colonial authorities took no interest in this danger, which did not yet affect the useful part of Tunisia.

Since 1956, the government of independent Tunisia has undertaken an anti-desertification program on a large scale.

Many operations have been successfully carried out, in particular stopping the sands which feed the dunes and stabilizing these dunes by planting vegetation.

Jessours

This vegetation--in particular acacia and atriplex trees--also provides valuable forage for the domesticated animals in these regions (camels, goats, sheep, etc.).

Thus more than 50 cases have been protected, bringing the number of protected hectares from only 2,000 in 1962 to 14,000 in 1972 and 41,000 by the end of 1978.

At the end of the same year, over 150,000 hectares of land were reclaimed thanks to the building of "jessours" (small dams made of dry stone) due to the ingenuity of the people in the south.

By instituting a tree holiday very early on, Tunisia gave special impetus to reforestation at all levels: Aleppo pines in the north, eucalyptus and poplars as windbreakers around farms, and drought-resistant plants in the central and southern parts of the country.

Of the 20,000 reforested hectares, 1,750 were reforested to protect oases.

However, with a forestation rate of 3 percent, the forest cover remains insufficient. Forests both protect and produce; their double economic and social role has been proven by now.

During the Fifth Plan (1977-1981), the following operations were carried out:

- Reforestation of 16,500 hectares;
- Treatment of 120,000 hectares against erosion;
- Opening of 1,300 km of access roads.

But the very high costs of these operations hold back their development. Nevertheless they remain priority projects, because it is impossible to put a price on the conservation of the nation's heritage of land and water.

100 Million

Thus the ministry of agriculture's capital budget for 1982 set aside 30 percent of the total for forests and the fight against erosion; this will create millions of working days.

For the Sixth Plan (1982-86), total investments set aside for water and soil conservation and reforestation should be more than 100 million dinars, compared to 44 million during the Fifth plan (1977-81). Of these investments, 40 percent will be for water and soil conservation and 27 percent for reforestation.

These investments will affect, in particular, the northwest, the central west and the south. The tempo of anti-erosion management and the rhythm of the reforestation process will be noticeably improved.

In 1972, 10 years ago, the first national seminar on desertification, held in Gabes, made it possible to indentify a strategy designed, in particular, to make the population participate actively in the fight against desertification at all levels: local, regional and national.

With the appearance of new water resources in the south, this type of plan becomes necessary.

An ambitious plan necessarily implies bold methods--at all levels--which are off the beaten path.

Complemented by interregional cooperation, centered for the first stage in the Institute for Arid Zones, this type of approach could lead to a large-scale operation capable of really holding back the encroaching desert.

9855

CSO: 5000/5021

## IVORY COAST

### BRIEFS

BANANA CROP DESTROYED--Torrential rains from 28 June to 5 July, flooded about 80 percent of the Dabou plantations (representing 35 percent of the nation's production) and destroyed an estimated 25,000 tons bananas valued at 4 billion CFA francs. Banana growers also suffered enormous losses in 1973 and 1976. [Abidjan FRATERNITE MATIN in French 16 Jul 82 p 1]

CSO: 5000/5794

SOUTH AFRICA

BRIEFS

OIL TRANSFER--Port Elizabeth--A start to a 60-hour transfer operation of more than 120 000 tons of oil from the damaged vessel Marofa in Algoa Bay to another vessel was made yesterday afternoon. The chief pollution officer of the Department of Transport's marine section, Mr Bill Bricknall, said the transfer to the Norwegian vessel, the Johs Stove, was expected to be completed without problems as long as the weather remained good.--Sapa [Text] [Johannesburg THE CITIZEN in English 4 Aug 82 p 4]

CSO: 5000/5789

## BRIEFS

CATTLE DYING--Plumtree--About 50 head of cattle have been dying each day in the drought-stricken Plumtree area and the number is rising, the senior animal inspector for the district, Mr M.H. Mahanso said yesterday. The highest daily death rate was recorded between July 4 and July 7 when between 55 and 68 animals died each day. [Text] [Johannesburg THE CITIZEN in English 4 Aug 82 p 8]

TAKAWIRA'S DROUGHT CRISIS EASED--MVUMA--FOOD RELIEF is being given to people of the Takawira district, the district administrator here, Mr Absalom Sibanda, said yesterday. "Due to the severe drought in the southern part of the Takawira district we have had to bring in food relief, starting at the beginning of this month, and we expect it to go on for a year," Mr Sibanda said. The exercise was being carried out by the Ministry of Labour and Social Services with the help of the Ministry of Agriculture, he said. "We have been distributing only maize grain, but plan to distribute groundnuts, beans and kapenta fish," he said. "So far 1 274 bags of maize have been distributed and we are hoping to receive 40 bags of groundnuts and nine bags of beans." A husband and wife were given 30 kg of maize grain a month while a child got 7,5 kg, he said. There are five distribution points in the district at Chinyunu, St Joseph's Chaka, Moyo Musande and Hwata. "Workers of the District Development Fund and the Central Mechanical Equipment Department are helping in the distribution of the food," Mr Sibanda said. [Text] [Harare THE HERALD in English 28 Jul 82 p 7]

DROUGHT RELIEF NEEDED--GWERU, DROUGHT-HIT communal land farmers in the Midlands province, who have not heeded the advice of the experts to get rid of their cattle, have not yet been hit by many deaths. "But I believe this is just the lull before the storm, a period of grace they have been given before the arable areas, where they have been feeding their cattle, have run out of food," says the provincial extension officer of Agritex, Mr Bob Vaughan-Evans. He added that water was perhaps an even bigger worry than food as far as both cattle and humans were concerned ... "and I can see all sorts of relief measures having to be taken before the end of the year". He said the farmer had not supported the cattle sales and even if they supported them from now on their condition would be poor. It would be a case of whether the Cold Storage Commission could get them alive to some point where they could feed them. "At this stage we can say there have been a few deaths from starvation and I think these losses will step up in the middle of August," he said. The worst-hit areas are Mberengwa and Zvishavane, then Chiwundura and Chilimanzi, then Shurugwi, Lower Gweru, Zhombe and Silobela. [Text] [Harare THE HERALD in English 28 Jul 82 p 6]

## HAZARDOUS WASTE LAWS VIEWED IN WAKE OF DUMPING SCANDAL

### Processing Firm Official Comments

Helsinki HUFVUDSTADSBLADET in Swedish 14 Jul 82 p 2

[Article by Ann-Britt Gronroos]

[Text] "There hardly is any industry in Finland that has no problem waste," Folke Aarnio said. The chemical, metal, pharmaceutical, paint, graphics, and food industries, among others, have the greatest problems.

"Even a modern carpenter's workshop has problem waste," he said. "The various glues and paints are difficult to break down. The only industry that has virtually no waste that is harmful to the environment is the textile industry."

Problem waste generally brings to mind waste generated by industry, but the individual consumer is not totally without blame.

"All old medicines, aerosol bottles with insecticides or herbicides, impregnated wood, pressurized containers, leftover detergents, paints, lacquer and varnish, junk from the car, flashlight batteries, and thermometers--all these are included in the term "problem waste."

Folke Aarnio fears that these types of waste will cause serious problems in the future.

"We must not concentrate only on labels with the skull and crossbones. A study in Denmark has shown that such poisonous waste constitutes only 0.3 percent of all problem waste."

"Moonlight Disposal"

But what shall we do with all the waste?

"That is precisely what we do not know," section head Olli Ojala said. "Waste management has its shortcomings, as we know, but we probably have been too naive."

At the Interior Ministry, Ojala could not point to any figures, but he

indicated that some estimates had been made with regard to oil. According to them, there are about 50,000 tons of used combustible oil each year. At least half of the waste oil is burned, but about one third goes into the sewer system, to waste dumps, or to other unlawful dumping sites.

Of the remaining problem waste, Folke Aarnio said that just over half is disposed of by so-called "moonlight disposal."

"Problem waste management has been a serious problem. People do not know what to do with it and the cost can be considerable," Aarnio said.

"I am aware of the large quantities that are unaccounted for and I live with the constant fear that a catastrophe could occur," he continued. "The groundwater is most sensitive and such a catastrophe would not be cheap."

He pointed to the accident that occurred near Landskrona in Sweden. Herbicides and insecticides reached the groundwater through a leak and then flowed into streams. The cleanup took several years and cost 30 million Swedish kronor.

"Total management of problem waste has become expensive for companies, of course," Aarnio said. "This is why 'moonlight disposal' occurs. Fortunately, major environmental catastrophes were avoided until the accident in Dragsfjard."

#### Stockpiles Waiting

In addition to all the waste dumped in forests and in the ground, about 20 to 25 tons of problem waste that is most difficult to destroy already exists in storage facilities. This is waste that already is awaiting a special facility. "The solid waste can be stored for an indefinite period of time," Aarnio said. Usually the waste is stored in 200-liter containers either buried in the ground or in indoor warehouses. They often are stacked up and covered.

"Of course, supervision is the most important aspect of stored hazardous waste. The containers should be checked carefully at regular intervals so that no rust or leakage occurs," he said.

Of all the problem wastes, industry itself takes care of 30 to 35 thousand tons. Many industries have their own combustion furnaces where they can manage waste without endangering the environment. Some industries are in contact with municipal waste management authorities that take care of the problem waste.

"Actually, the municipalities are responsible for seeing that the waste is properly managed within the area, but the main responsibility is on the one who produces the waste," Ojala said.

#### Little Legal Export

Olli Ojala believes that no more than one tenth of the problem waste is exported, but problem waste can be exported illegally, of course, as "junk." It is almost impossible to control such activity.

Industries with waste that is difficult to destroy and hazardous to the

environment, however, rely on exporting the waste when there is no other alternative.

Neste Oy, for example, has transported its problem waste to the North Sea where chlorine-containing waste is burned.

PCB has been exported to England for burning.

The most modern facility in Europe is located in Denmark where the electronics industry has sent waste for recycling, including circuits containing much copper.

Previously, mercury from batteries was exported to German salt mines. In addition, West Germany has combustion facilities capable of handling problem waste, even in soluble form.

No Supervision!

No law on problem waste was in effect until April 1981. According to it, anyone who creates hazardous or otherwise troublesome waste also is responsible for managing it. According to the law, industries and homes with problem waste must submit a plan for waste management to the municipal government.

"We do not know if this has occurred," said Olli Ojala at the Interior Ministry, "But we hope to begin an investigation in the near future on the entire problem waste situation in our country."

Ojala believes that the law provides a good foundation for waste management, but for it to be 100-percent effective, provisions should be made for supervision.

At present, the environmental protection section has one employee to deal with waste problems. There also is only one employee in Tavastehus Province. He is involved in the future facility in Riihimäki. These are, for all practical purposes, the only people in our country who are dealing with problem waste--and they are hardly sufficient, according to Ojala.

Finally a Plant

In the late 1960's the first national committee was appointed to discuss the problems of waste management, but the first concrete proposal for a state-owned waste facility was not made until the mid-1970's.

Now, however, the state has formed a corporation along with various municipalities and companies.

The Finland's Problemavfall AB plant in Riihimäki should be complete in late 1984 or early 1985. The plant is designed to receive about 71,000 tons of problem waste annually. This is a large portion of the total hazardous waste produced in Finland.



"There long has been an urgent need for Finland to construct a waste management plant," Ojala said. "When it is complete, the plant in Riihimäki will be almost the only legal site to receive problem waste from industry."

Folke Aarnio stressed that the Riihimäki plant was the greatest investment ever made by Finland to protect the environment.

"Industry has waited for it. It really is needed. This was demonstrated by the accident in Dragsfjärd," Aarnio said. "The accident also opened people's eyes at last and showed how great the problem of hazardous waste actually is."

#### Industry Leaders' Processing Procedures

Helsinki HUFVUDSTADSBLADET in Swedish 14 Jul 82 p 2

[Text] HUFVUDSTADSBLADET talked to representatives from several industries that have problem waste. It turned out, however, that the individual companies do not have such large quantities of problem waste. Everyone agreed on one thing, however: less hazardous waste is burned, while more dangerous problem waste is stored until the waste treatment plant in Riihimäki is completed.

There is "extremely little" problem waste at the A. Ahlstrom Osakeyhtiös plants in Karhula. The company has constructed its own storage site on company property for the bottles of poison, waste oil, and aniline paints used at the plants. This storage site has been used for many years and now the company simply is waiting for the problem waste facility to be completed in Riihimäki.

"The only problem we have had is with arsenic," public relations director Erkki Noronkoski said. "But 2 years ago we decided not to use arsenic at all, since it was so difficult to manage."

Some of the waste is burned at the plant, but this burning always occurs with the cooperation of the authorities.

Oy Alko Ab has its own purification plant in Rajamäki, but according to product planning director Olli Kauppila, the company has no problem waste.

"The waste water we have here in Riihimäki comprises only about one fourth of the water we use in production. The water first is purified anaerobically, then with plastic cells and with activated sludge treatment. The sludge that is formed is removed and dried to be used as fertilizer."

"The purified water has a pH value of 30 [as published]. This is in accordance with municipal requirements," Kauppila said, "and for this reason we are able to pump it out into the river. We even are able to pump some of the cooling water back up onto the sand ridge to be reused."

Kemira Oy has problem waste in the form of leftover pesticides and pesticide containers. The company has its own combustion facility in Vasa to deal with

the waste. Arsenic also has been stored there for about 10 years. The arsenic is stored in 50-liter containers which, in turn, are placed into 200-liter concrete tanks. There are about 10 tanks of arsenic, in addition to some metallic salts and lead sulfate. These toxic substances are kept in closed storage areas. So far, no supervision has been needed.

Farmos-Yhtymä Oy has a contract with the city of Turku. In accordance with the contract, Turku receives all pharmaceutical waste and deals with it in its combustion plant. This waste management always occurs under special supervision. About 10 tons of medicine is involved, but this also includes the packaging.

For about 6 months, Oy Partek Ab has attempted to dispose of 10 to 12 tons of unusual compounds used in the plastics industry for experimental purposes. The company still does not know what will be done with these substances. Sweden has promised to take small quantities and samples now are being analyzed to find out exactly what substances are involved.

Director Gunnar Hognas said that the basic principle has been to store the problem waste. About 10 tons of hazardous waste now is in storage.

Mineral wool waste also is being stored. In the production of mineral wool, the cooling water is polluted by various phenol derivatives. This is a dangerous substance that is monitored carefully at the plant. The water is collected in large basins. At the Hyrylä plant the waste is burned.

At Oy Shell Ab problem waste results primarily from the cleaning of gasoline tanks, although the amounts are "negligible." The company is able to store these amounts itself.

Oy W. Rosenlew Ab presently has a problem waste stockpile of about 1,000 containers as large as barrels. The company is waiting for the Riihimäki plant to be completed. The waste is in the process of being analyzed chemically, categorized, and stored according to types. The Riihimäki plant will require a detailed list of contents in the waste. It is up to each company to analyze samples of waste sent to Riihimäki.

Problem waste occurs at Orion-yhtymä Oy only when a batch of medicine is damaged or improperly manufactured. The waste is being stored until the Riihimäki plant is complete.

#### Study Needed to Survey Extent of Problem

Helsinki HUFVUDSTADSBLADET in Swedish 18 Jul 82 p 2

[Editorial by Jan-Magnus Jansson: "How Will The New Waste Law Function"]

[Text] The recent toxic waste scandal has drawn attention to the law on hazardous waste. Jan-Magnus Jansson states that the law provides a good foundation for up-to-date

management of the problem, but implementation of the law is taking time.

The toxic waste scandal in the waters of Dragsfjord once again has drawn attention to the shortcomings of our waste management system. In 1979 the new waste management law went into effect and was greeted as an important milestone in environmental protection in our country. The weakest point in the waste management law was that the regulations on problem waste were far from sufficient. This shortcoming was corrected when parliament approved amendments to the law which took effect on 1 April 1981.

It may be said that our legislation provides the fundamental tools needed to overcome the waste problem in an acceptable manner. It is remarkable, however, that ordinary people see few signs of the effects of the new legislation, even though most of the regulations have been in effect for over 3 years and the additional regulations approved by parliament have been in effect over 1 year.

The only positive aspect of the scandal involving containers of toxic substances found in Dragsfjord is that the authorities and the general public have turned their attention to the waste problem in general and the problem waste situation in particular. Actually, this incident cannot be referred to as an example of poor legislation. There always have been unscrupulous businessmen who seek personal gain from the difficulties of others. The waste management law provides punishment for such people that may be considered sufficient. "Felony waste management crimes," as has been pointed out repeatedly in recent days, can result in prison sentences from 1 to 6 years.

The lesson to be learned in the most recent case, if our understanding of the situation proves to be correct, is that industry is so hard-pressed by the need to store quantities of problem waste that even highly respectable firms jump at an apocryphal offer. Solutions to the practical problems will be facilitated greatly when the problem waste plant in Riihimäki is completed which, according to the plant administration, will be in late 1984 or early 1985. The capacity of the plant should be great enough to deal with the waste that now must be managed. Here we must recall the many obstacles that arose when the facility was being planned and we should extend our thanks to the town of Riihimäki which had the courage to host the facility and put an end to the hunt for an acceptable site.

Another conclusion that perhaps may be drawn is that the decision-making process within companies on the waste issue should be reviewed. The detailed regulations in the law and the severe punishment that may result indicate that society considers this an important issue. This also should be reflected within the company so that the decision on the placement and management of waste should be made as carefully as possible and in an expert manner.

Recent publicity also has made it apparent that public officials know too little about where and in what quantities problem waste arises in the production process. It has been pointed out that only a portion of the critical substances

can be classified as poisons and, thus, are included in the toxic substances law. Thus, a survey of the problem waste situation in its entirety is needed.

Problem waste, however, is only one sector in which results are expected from the new legislation. Another extremely important area is waste recycling. Recycling is the fundamental principle of the law. In this case, the basic principle not only is of economic significance, but it is considered by many people to be a moral obligation. The dumping or destruction of material that could be utilized in production to save the extraction of new raw materials seems both inappropriate and objectionable.

A working group appointed by the Interior Ministry recently took the trouble to calculate the extent and value of the usable waste that is used and that is wasted each year. It was found that 27 million tons of waste annually is utilized in one way or another, while 30 million tons that could be utilized is wasted. The value of this latter quantity was estimated at 2.6 billion marks. It should be noted that waste from the forestry and mining industries was included in this figure, in addition to waste in the conventional sense.

It could be said that there is general agreement that recycling is needed, from the individual household member who feels guilty as he takes a rusted household appliance to the dump or throws away no-return bottles, to the company that could utilize the special type of domestic raw material found in its waste. Nevertheless, the regulations in the law run into several bottlenecks on the way to implementation.

Waste that shall be utilized must be sorted (either at home or at a central municipal facility) and it must be suitable for further processing. There also must be a potential purchaser who is interested in receiving the raw material for economic reasons.

The present system falls short on all these points, although the situation varies depending on the type of waste. A household cannot begin sorting waste on its own initiative (except for paper which traditionally has been utilized) unless the various types of waste are removed separately by waste collectors. Sorting could occur at the municipal level, but so far the municipalities have shown little interest in recycling. In general, the municipalities have been inactive in implementing the spirit of the law, even though the law expressly gives them the task of recycling waste "to the extent possible."

Industry is the final link in the process. It is responsible for seeing that the reclaimed material actually is utilized. Here established habits and traditional channels play an important role, although in recent years industry has become interested in waste as a source of energy and as a raw material.

The government cannot be accused of having been blind to the fact that the waste situation has not had a great impact on society. Several committees and working groups have developed proposals for making waste management more

efficient and making the use of raw materials from waste more economically attractive. In any case, the municipalities hold a key position. It is possible that the law should be more severe with regard to them, but even having several "model cities" implement the system prescribed by the law certainly would have a stimulating and normative effect.

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